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ABSTRACT

This paper offers a brief history and description of a voluntary consortium of six church-related private colleges, the Associated Colleges of Central Kansas (ACCK), that is governed by a board of directors made up of the presidents of the member colleges. The schools, all within close geographical proximity, have a combined enrollment of over 3,500 students. ACCK activities include curriculum improvement, faculty development, student services, library cooperation, and a single center for administrative computer services. Formally created in 1966, ACCK had a period of rapid growth in 1971-1975, fueled in large part by federal funding. As funding declined, there was some retrenchment, but cooperation has been maintained in several areas. The computing activities have evolved in line with new developments in software and hardware; these activities are guided by a computer policy committee reporting to the board of directors. There is also a computer science curriculum committee composed of computer science faculty from the various campuses which has oversight of shared academic computer science offerings. The centralized facility allows access to hardware and human resources which would be unavailable or too expensive for the individual institutions and has provided important lessons about cooperation among academic institutions. (Contains 26 references.) (RH)

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Serving Six Institutions: A History of Administrative Computing at the Associated Colleges of Central Kansas

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I. INTRODUCTION

This paper offers a brief history and description of a consortium of six private colleges in central Kansas that operates a single center for administrative computing. Arising from a desire to develop programs of mutual benefit, the Associated Colleges of Central Kansas (ACCK) has an interesting history. ACCK grew and flourished when grant funding was available in the 1960's and 1970's. Though retrenchment followed in the 1980's, the institutions maintain a commitment to cooperation in several areas.

Voluntary arrangements among institutions of higher education are not unknown. Athletic conferences and relationships among academic libraries enjoy widespread support. People recognize benefits from common scheduling and shared resources. However, these joint efforts are a small part of campus life as institutions stress unique academic missions. There often appears to be an inherent tendency among academics to value their independence.

Many consortia were created in response to liberal funding from private and federal sources. As funding levels decreased and priorities shifted, these relationships often withered. Computer networks and efforts to develop virtual universities now provide new reasons for academic leaders to explore cooperative initiatives. The lessons learned at ACCK may provide a model as higher education leaders seek to gain benefits through shared activity.

II. OVERVIEW OF ACCK HISTORY

The Associated Colleges of Central Kansas (ACCK) is one of the oldest and most successful voluntary consortia in higher education. More than thirty years ago, six private church related liberal arts institutions decided to pool resources and explore opportunities of mutual benefit. The members of ACCK are Bethany College, Bethel College, Kansas Wesleyan University, McPherson College, Sterling College, and Tabor College. All the institutions are within a 35 mile radius of McPherson, KS.

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TABLE 1

ACCK MEMBER INSTITUTIONS

ACCK Institution	Community	Religious Affiliation	Current President
Bethany College	Lindsborg	Evangelical Lutheran Church in America	Chris Thomforde
Bethel College	North Newton	General Conference of the Mennonite Church	Douglas Penner
Kansas Wesleyan University	Salina	United Methodist Church	Marshall Stanton
McPherson College	McPherson	Church of the Brethren	Gary Dill
Sterling College	Sterling	Presbyterian Church (U.S.A.)	Edward Johnson
Tabor College	Hillsboro	Mennonite Brethren Church	Larry Nikkel

Starting in the 1940's, several of the schools that later formed ACCK participated in an annual faculty meeting of colleges located along U.S. Highway 81. Kansas Wesleyan, Bethany, McPherson, Bethel and Friends were the core of these gatherings. On occasion, Friends invited Southwestern, Bethel invited Tabor and Hesston Colleges, and McPherson invited Sterling. At one of these meetings in 1964 on the Sterling campus a statement was made about the problems of public school consolidation in Kansas. The speaker argued that liberal arts colleges needed to cooperate if they were to thrive, let alone survive.

The president of Bethel College was in attendance and later met individually with the presidents and deans of the six institutions that later formed ACCK. Meetings of these presidents and deans were held roughly every two weeks from the fall of 1965 until ACCK was formally created at a gathering of presidents and representative members of trustees on May 6, 1966.[1]

ACCK is organized as a non-profit corporation under the laws of Kansas. The Board of Directors, made up of presidents from the member colleges, serves as the governing body. The Board hires an executive director who is given the responsibility for administering the activities of the organization. The intent of the member institutions was summarized as, "... a voluntary association...it is not an additional bureaucratic layer...Rather, it is an instrument of the member institutions themselves, implementing programs of mutual concern by identifying the unique strengths and resources of each college and assisting them in directing their collective efforts."[2]

The first ACCK president, now referred to as the executive director, was Dr. V.R. Easterling who assumed his position January 1, 1967. Dr. Easterling was formerly vice president of operations at Wichita State University.

Table 2

EXECUTIVE DIRECTORS

January 1967 - 1970	Dr. V.R. Easterling
July 1970 – June 1977	Dr. Howard W. Johnston
July 1978 – March 1980	Dr. Timothy Adams
July 1982 - 1985	Mel Goering
Summer 1985 – March 1989	Dr. Robert Hinshaw
April 1989 – November 1990	Bruce Karstadt
April 15, 1991 – June 1995	Dr. Doug Penner
July 1995 - June 1996	Dr. John Paul Thompson
August 1996 – March 1998	Dr. Connie Andes
July 1, 1998 – present	Dr. Ray Brown

A summary of ACCK activities includes: curriculum improvement, faculty development, student services, library cooperation, and centralized administrative computer services. The most successful academic initiative is the cooperative program for preparation of special education teachers which started in 1972. ACCK now also offers students shared courses in computer science and secondary teaching methods. Today, the combined enrollments on the campuses exceeds 3,500 students. Throughout its history, the ACCK central office has been centrally located in downtown McPherson, KS and organizational efforts have been guided by a mission and purposes.

The ACCK Mission[3]

The Associated Colleges of Central Kansas is established:

1) To be a voluntary association of church-related colleges in close geographical proximity that represents value-oriented, independent higher education;
2) To benefit each institution through cooperation that provides economy and enrichment of academic programs, yet preserves individual identity through the unique emphasis of each institution;
3) To encourage international and intercultural programming, thereby reducing the geographical isolation and parochialism of our environment;
4) To enhance collegiality among disciplines and administrative offices and the quality of the academic offerings; and
5) To provide technical assistance of a range and level of sophistication not possible as six separate institutions.

The ACCK Purposes [4,5]

The Associated Colleges of Central Kansas is maintained to:

1) provide facilities and services for advancement of higher education;
2) advance interests and effectiveness of its members;
3) improve efficiency of operations for members; and
4) develop additional sources of revenue.

The first four purposes were reviewed and affirmed by the Board of Directors at a planning retreat in November 1997. Two additional statements were added:

5) maximize the advantages of geographic proximity; and
6) promote collegiality.

C. Norman Hanson conducted a study of ACCK's early history and identified four distinct periods for the consortium. From our perspective in 1999, we could arrange different categories. However, Hanson's observations provide a useful overview of the early years at ACCK. His observations were made after interviews with administrators, directors of ten other successful consortia, and a review of organizational documents. In a presentation to the Board of Directors he noted that, "ACCK has been comparatively cautious in experimenting with new areas of cooperation, choosing carefully what it undertakes. The result has been unusually strong commitment to, and continuity in, the cooperative endeavors selected, giving the ACCK an enviable record of achievements.[6]

1967-1970 Establishment – An administrator was hired to manage planning and daily operations. A location was set up for a central office and the first federal funds began arriving with a successful Title III proposal for fiscal year 1967. The ACCK budget for July 1, 1967 – June 30, 1968 was $167,833. Of this amount, $143,000 or 85% was from federal sources. $60,753 or 36% was allocated for data processing.[7] The budget for the following 1968 fiscal year was approved at a level of $395,420 with anticipated federal funds of $365,420. Each member college expected to contribute $5,000. A "hot line" telephone connection and pony express or courier services were operating in October 1967. Dean Bacon, who taught data processing at Central College was hired as the first director of the ACCK data processing center. An IBM 1401 B-5 system was installed at McPherson College in the summer of 1968.[8]

1971-1975 Growth – ACCK experienced a period of rapid growth fueled in large part by federal funding. A common calendar was firmly in place with a January Interterm. Cooperative classes were offered in a number of disciplines. Faculty development and an extensive visiting scholar program were organized. Joint development work took place among campus libraries. A center for institutional

development operated with management workshops and assistance for planning and research. There was also planning for a student learning lab and an Upward Bound program was offered. For the 1974-1975 budget, federal sources provided $411,954 or 79% out of a total of $520,954.[9]

1976-1980 Maturity – Computer services expanded and became a major ACCK activity in terms of size and cost. However, change for ACCK was imminent. By the end of this period, cessation of Title III and other federal funding tested the cooperative will of the campuses. The success and growth of previous years was taken for granted and the possibility of declining federal funding had not been contemplated.

1980-1985 Maintenance – The selection of Executive Directors reflected the increasing importance of managing the computer center and skills in constructive retrenchment for academic programs and student services. In contrast to the decline of many activities, the special education and teacher education programs gained statewide visibility and achieved a reputation for quality during this period.[10]

III. ACCK ADMINISTRATIVE COMPUTING

A. Overview and Governance

There are two dividing lines in the history of computing at ACCK. First, distinctions must be made between the early era of locally developed software and the later period of vendor-supplied integrated administrative software packages. This line can be drawn in 1981.

A second transition occurred between 1988-1990. This period distinguishes a time when the computer center supported both academic and administrative users and the current era where academic computing occurs on the campuses using minicomputers and microcomputers.

While ultimate responsibility for ACCK computing activities rests with the Board of Directors, most operational and policy decisions are discussed at the Computer Policy Committee (CPC). Initially, the committee was called the Computer Policy Advisory Committee and operated under a Charter which called its members to make recommendations regarding: a) priorities of data systems to be developed; b) role of computer science academic work; c) staffing; d) types of computer equipment to be used; e) services to offer for outside groups; f) budget and finance; g) standards of service; and, h) relations between the ACCK computer center and the colleges.

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There were alterations in committee membership that reflected changing uses of the central computer system. On November 2, 1977 the committee met under a new name, the Computing Policy Committee. Membership included one administrator and one faculty member from each campus. At first, each campus had a single vote and the ACCK librarians were recognized with a vote. After 1984, membership was reduced to one representative per campus and the librarians no longer received special recognition.

In more recent years CPC membership evolved with campus representation by the business officer. While computer center policy and operations take up a large part of committee time, other financial issues, e.g., insurance and tuition, began to appear on the committee agenda. The Board of Directors is currently considering a draft proposal to rename the CPC and formally broaden the scope of the committee responsibilities.

Since the early 1970's another committee, the Computer Science Curriculum Committee has been charged with the oversight of shared academic computer science course offerings. This group is comprised of computer science faculty from the campuses and has the responsibility to schedule and recommend individuals to teach shared classes. Organizationally, the CSCC reports to the academic deans who meet as the Academic Policy Committee (APC). On occasion, the CSCC authored memorandums to the CPC to communicate concerns from faculty and students as they shared access to the central computer.

B. Computer Systems

From time to time, it was obvious that a new computer system was needed. Recurrent themes surface as computer technology changes or comments arise about poor response time among campus users and lack of memory for storing files.

Table 3

ACCK COMPUTER SYSTEMS

Computer	Dates of Service	Description
IBM 1401	July 1968 -- November 1971	located at McPherson College
DEC PDP/8	September 1971 - September 1976	located at ACCK office
IBM 370/145	1971 – September 1976 at Alliance Insurance in McPherson, KS	ACCK leased space on IBM 370 at remote site; 256KB memory; 100MB of HD space allocated
Harris S210	October 1976 – October 1983	288K memory; two 80MB HD; 22 ports
Harris S80	May 1981 – October 1983	0.59MB memory; one 80MB & one 675 MB HD; 32 ports
Harris H800	October 1983 – February 1990	2.5MB memory; one 80MB & three 675MB HD; 80 ports
Encore	March 1988 – October 1993	112 ports
HP9000/G30	April 1993 - 1996	49MHz RISC parallel processors; 320MB memory; 18GB HD
HP9000/D250	1996-1998	0.5GB memory; 24GB HD
HP9000/D270	1998 – present	1GB memory; 28GB HD

During the early 1970's administrative computing was largely run on computers housed at other locations. An IBM 1401 leased with Title III funds was located at McPherson College. Later, an IBM 370 owned by a large regional insurance firm with headquarters in McPherson was used. ACCK leased time and hard drive space on the IBM 370.

This first 370/145 was delivered at Alliance Insurance in July 1971. It had a 256K CPU, 2 printers with 1200 LPM and 600 LPM capabilities, a 3330 disk system with 100MB allocated to ACCK, and 2 card reader/punch machines. FORTRAN, COBOL, RPG & assembly language were available.

A Digital Equipment PDP/8 computer was then acquired and located at the ACCK central offices to serve academic users. The PDP/8 was connected by telephone lines to teletypewriter terminals at each campus. The TSS/8 operating system was a time-sharing system and the languages available were BASIC, FORTRAN-D, PAL-D, and assembly language. Up to 16 terminals could be supported simultaneously.

A step forward occurred with installation of the Harris S210 system in 1976. The PDP/8 was retired and the lease was ended with Alliance on the IBM 370. Administrative and academic computing was now consolidated on one computer at the ACCK central office. The campuses were networked with two interactive Decwriter II terminals at each site connected over leased multiplexed telephone lines. Users with an acoustically coupled modem at their terminals could also dial directly to gain computer access.[11]

The first issue of the computing newsletter in the fall offered an overview of the new system and the capabilities available to users.

> The Harris system ACCK has acquired provides a remarkable range of services for its size and cost. However, we did not "over buy" in terms of effective computer speed...When all users are in simultaneous action (as many as 18), the terminal response time will increase noticeably. We trust you will be sympathetic with our objective of providing "reasonable service" consistent with "available resources." The questions most asked by our users are how to use the new system and how different is it from the old ones. TSS/8 users will be in for some surprises – mostly pleasant. BASIC under Vulcan is much more powerful with large arrays, matrix instructions and longer strings...it is possible to call routines written in other languages...Users familiar with using the 370 have some surprises too. FORTRAN and COBOL are available interactively at terminals. No more wasted days due to a misplaced comma...Converting programs from the 370 to the Harris is quite straight-forward.[12]

Life for the ACCK computer operators and programmers was an adventure during the 1970's. Mirroring problems found on other campuses and in the corporate world, people worked to figure out how to harness the computing power in a way that improved organizational operations.

> We seem to have had our share of shake-down problems...A memory board failure caused the system to be completely down for two days while a replacement was flown in. A memory parity error sometime later severely limited operations for several days.[13]

The same newsletter also included a caution against use of computer games, "It is not the purpose or goal of Computer Service to be a recreational utility..." and restrictions on use of games were listed for campus users.

Glenn Wiebe, director of the Computer Center at the time, noted that ACCK was running over "...200 working programs, all devised by the colleges except for about five percent which were 'imported' from CAUSE, SPSS and a biomedical package from the University of California

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at Los Angeles...." There were roughly 300 active student users sharing the system with academic and administrative personnel.[14]

In spite of efforts to provide consistent use of programs across the six campuses, it became apparent that a more sophisticated software solution was needed. But it was a rocky few years at ACCK before and after this significant change was made.

In late 1978, a consultant was hired to review the situation. After visits to the campuses and interviews with many users of the system, he concluded, "...that the concept of a central site...is sound and that the association should look with pride on the accomplishments of the computer operations...the hardware is adequate...The staff seems to be exceptional...there is a strong interest from the administrative users to move to a so called 'total management information system.'...based on every phase of the contacts I have had involving this evaluation the area of communications seems to be a basic source of many concerns."[15]

In August, 1980 the decision was made to purchase an integrated package known as INTERACT from Information Associates, Inc. (IAI) of Rochester, NY. Plans were also made to acquire a second Harris computer for the software.[16]

> Initial hopes for the new system were too optimistic and by September 1982, problems were apparent. In a memo, ACCK Executive Director Melvin Goering commented, "We are in a vicious cycle of disintegration...user satisfaction with the services of the computer center is very low. Promises of INTERACT installation have been made and not fulfilled. This user dissatisfaction coupled with the extreme overload of the computer staff makes local entities reluctant to even discuss needs with the center...local campuses begin looking to their own resources to fulfill needed services...Each time this happens it decreases the incentive of that school to be concerned with adequate funding and staffing of the computer center...to the extent the local campus wants some tie-in of their equipment to the central system it increases the work load of our staff...We have begun down the path described."[17]

Table 4

ACCK INTEGRATED ADMINISTRATIVE SOFTWARE

Software	Initial Installation	Company
INTERACT	May 1981	Information Associates, later sold to Westinghouse Learning Resources
CARS	March 1988	CIS

Wiebe described the software, "The INTERACT system, which is basically an adaptation of large scale systems to a minicomputer environment, is a complex but good management information system…However,…it requires a lot of resources…there are over 400 programs containing well over 100,000 lines of COBOL…Also included are over 2,000 pages of manuals. Our expectation of installing the systems in a year was unrealistic…The idea of an INTERACT coordinator on each campus has not worked out well…the person must know at least as much about all the systems as any of the users on campus…"[18] This last idea of campus coordinators is a repeated theme that first appeared in early 1971 with a recommendation of the Computer Policy Advisory Committee and later in the consultant's report.[19]

In late 1982, the Board of Directors authorized the hiring of an additional full-time programmer and a half-time computer operator. By early 1983 it was evident that a much more powerful computer was needed and a decision was made to acquire the Harris 800 computer. With an estimated cost of $60,000 per campus, there was also discussion and approval of a trial alternative billing systems for the campuses reliance on equal sharing of costs. Instead, a billing system was proposed where part of the campus fee would be determined by use.

It is interesting to note that a policy was approved in September, 1983 to discontinue using punched cards. Registrars and others were advised to use a CRT to enter data after this date. At the same meeting there was a request for approval of the first IBM PC to be purchased by the Computer Center.

In October 1983, an administrator at Bethel College sent a memo to ACCK, "We continue to experience a high level of inaccuracy, difficulty, frustration, and delay as we use the INTERACT SRS system. The level of service provided is inadequate and ultimately unacceptable….we can not contemplate, under any circumstances, continuing with INTERACT beyond this academic year." Drastic measures were needed. In a January 1984 memo to CPC, Executive Director Goering stated, "The Computer Center is under a mandate from the Computer Policy Committee to complete a new student records system in time to service the 1984-85 school term…Checkpoints have begun to slip…Therefore I have instructed the Computer Center staff to decline all requests for enhancement of current service levels in all existing systems." Slowly, the

situation began to improve. Minutes in May 1984 indicate, "...reports are good on how the system works."[20]

After a few years, changes in the computer industry and more sophisticated computer use in higher education led to a new study of alternatives. Seven months of research and deliberation resulted in a decision to purchase the CARS integrated administrative software and supporting ENCORE computer system. The combined cost, including annual maintenance fees, was projected to exceed $500,000 with payments spread over five years. Full implementation of the 21 modules was expected to take 18 months.[21]

CARS Information Systems (CIS) designs, develops, implements and supports software applications that integrate the academic, administrative and business functions for higher education, to lower cost, increase productivity and improve the quality of student and institutional information. The CARS software suite of applications enable departments and functions across the entire organization to have and share integrated, real-time student, financial and operational information. This integrated product suite is comprised of a number of modular applications: Recruiting/Admissions, Financial Aid, Registration and Academic Records, Student Affairs, Institutional Advancement, Financial, and Human Resources.

As in the earlier implementation of INTERACT, the costs and time involved with the transition to CARS were underestimated initially.

> We now have some months of experience with the CARS system...we have a better appreciation for the admonition of CARS regarding the complexity and time involved in bringing a system into operation. We are increasingly aware of the added difficulty of working with six colleges...all parties agree it is unrealistic to move six schools to the new payroll system by January 1. Nor is it realistic to expect six colleges to complete spring registration on CARS...[22]

In the early months ACCK Executive Director, Bruce Karstadt, reported on conversations at meetings he held with the campus academic users to determine their concerns.

> They feel somewhat left out of the process—they received no information about the Encore before a decision was made; they have yet to receive any documentation about the Encore; it is not uncommon for changes to be made (e.g. moving COBOL from Harris to Encore) without any advance notice; there are unreasonable delays in getting user names/log-ins for students (sometimes 2-4 weeks); and there is a lack of access to staff assistance.[23]

A variety of methods from user group meetings to training sessions have been tried to keep campus users involved with changes that are needed.

In the mid-1990's ACCK Computing Policy Committee meetings involved discussion of the cost for leased lines and the emerging KANREN network. Led by the public research universities with initial financing through NSF funds, KANREN provided an early link to the Internet for Kansas campuses. ACCK has now nearly completed conversion from the use of point to point multiplexed connection technology to local and wide area network ties to campuses via the Internet.

Recent enhancements to Computer Center services include installation of a medium-speed networked laser printer to facilitate plain paper printing of checks and transcripts. This permits high quality printing at a reasonable cost.[24] A CIS-produced computer-based training course on CD-ROM is now available to help new users become acquainted with the CARS software.[25]

Since late 1989, the ACCK computer support staff has consisted of five programmer/analysts and one printer operator. The programmer/analysts specialize in one or more of the CARS modules and perform other system maintenance duties. In staffing, as well as computer hardware, the ACCK model of sharing has made possible economical use of scarce resources compared with hiring support personnel on each campus, while providing a breadth of knowledge and skills available to all of the campuses. In recent years, each campus has hired one or more persons to set up, manage and maintain campus network connections. As the knowledge and experience of both ACCK personnel and campus users has increased over the years, the general satisfaction level of administrative computer users has steadily increased.

CARS and the relationship with CIS provide an important foundation for current ACCK computer center operations. CIS currently serves 138 institutions. Recognizing that client service is important in maintaining and increasing their client base, CIS has made a significant increase in staffing for customer support and training. Their target market is smaller higher education institutions. Implementation of CARS for multiple campuses through a centralized consortium is relatively unique and was pioneered by ACCK. Education Management Consortium with 18 proprietary schools and California School of Professional Psychology with 5 proprietary schools are the only other consortia using CARS.

CIS's corporate plans will no doubt drive ACCK's agenda in the future. These anticipated changes include: development for NT/Unix platforms; database independence to permit use of Informix, Oracle or SQL Server; support for document imaging; redesign to support web technology; and object based coding using Java.[26]

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IV. SUMMARY

The history of administrative computing for the six institutions that make up ACCK parallels in many ways the trends in computing in other areas of our society. Together there is access to hardware and human resources which would be unavailable or too costly for most small higher education institutions. Administrators benefit from direct access to an excellent staff of programmer/analysts and sophisticated software. In addition, through ACCK important lessons have been learned about the nature of cooperation among academic institutions. It becomes much easier to plan and implement new initiatives in response to opportunities.

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